

# maisonneuve

A QUARTERLY OF ARTS, OPINION & IDEAS | ISSUE 89: FALL 2023 | MAISONNEUVE.ORG



## Hive Minded

Queer lessons from the  
family structures of bees



Display until Dec. 15, 2023 | \$7.95 CAN



7 25274 86262 7

89



# Studying the Swarm

*Kate Barss explores how bees can guide us toward more communal perspectives on reproduction and queer family-making.*

Illustrations by Winnie Truong



Kate Barss is a writer living in Toronto. Her work has appeared in *Tin House*, *Catapult*, *Taddle Creek*, *the Hairpin*, *the Awl* and others. She's been a finalist for the Iowa Review Award and the Montreal Poetry Prize, and for prizes from *Prism*, *Room and Event*, among others. She's represented by Willenfield Literary.

**T**o think of a swarm is to think of violence, a dangerous clustering attack. A rapid mass of insects looming like weather—a dark hum overwhelming daylight. With the rise of urban beekeeping, an abundance of videos have emerged online showing dense carpets of bees overtaking restaurant patios and hot dog stands. In one, a uniformed NYPD officer gently sucks a swarm from a fire hydrant with a vacuum. We see the swarm, we think of danger. But swarming is actually a very vulnerable and docile time for honeybees. Without babies to protect, the bees are mellow and calm, leaving the colony susceptible to predators like birds, wasps or police armed with shop vacs. Vibrating and surrounding their queen, they pause, becoming miniature fans working to regulate the entire group's temperature, until scout bees, responsible for seeking out new nesting sites, find an appropriate hollow for migration. The swarm, despite its aggressive associations, is a moment of reproduction for the hive. It means that the community has grown so large that a new queen has been born, causing the bees to split and expand. The old queen and approximately ten thousand worker bees leave the old hive for a new cavity (perhaps a nearby hot dog stand) to call home. It's a reminder of the way that the experience of starting a new family can also be a moment of incredible insecurity.

In a sperm unboxing video, I watch two women—one wearing a turtleneck, the other a cat sweatshirt—open a tall rectangular box, loopy serif angling up the side, that resembles the designer cardboard packages from subscription services in which you pay to have cheeses or bath bombs arrive at your home every month. Within it is a cryotank—a container of nitroglycerin that keeps the sperm cold during transit and prior to ovulation. But it's not the first thing the women find as they dig through the box's contents.

Under the layers of Styrofoam there is a surprising amount of sperm swag. First, a neon plastic pen that reminds me of a crazy straw, a vibrant blue whale-shaped sperm silhouette capping the top. Next, a white, tadpole-like stuffie, a large red heart on the side. As the woman presses the heart, the sperm emits a long cackle, the sound the same texture as the tinny musical birthday cards you buy at drugstores. It's here that I shut the computer—a nervous, swarming feeling pulsing through my abdomen.

How do you start a family? Wild honeybee mating takes place in flight, thirty to sixty feet above the ground. It's never been captured in the wild on video, though it has been recorded in artificial and commercial settings. My partner, Bear, once described how she feels intimacy is lost in photography—how documenting our relationships subtracts from the experience of them. But even without video, scientists have been able to observe what happens during the mating flight. First, a young queen flies two to three kilometres from her hive. It's a rare moment of solitude—the only time in her life she's alone. Aside from this flight and to swarm, she never leaves the hive. If she dies, her hive risks dying too, each generation depending on her to reproduce; aside from a few exceptions, the queen is the only reproductive female bee in the hive. Once she reaches the drone gathering area, usually open airspace above a visibly-distinct landmark (perhaps a boulder or a steeple) she mates with ten to twenty drones, or male bees. With this act, the queen packs a lifetime of sperm into her spermatheca—a small pearl-shaped organ located just above her poison sac and stinger. She never has to mate again and, over her two-to-five-year lifespan, will lay 150,000 eggs from spring to fall, hatching into about 1,500 bees per day. During sex, the drone's phallus explodes, killing him immediately. His purpose singular and disposable, his role complete.

Bear and I want to make a family together. In trying to learn about options for queer fertility I oscillate between feeling that there is too much information,



most of it opaque and overwhelming, and feeling that there is no guidance available to me at all. My doctor emails me admitting that after talking to colleagues, she still doesn't have any information about best practices for at-home insemination and refers me to a midwife equipment sales site. A local fertility clinic tells me that the wait time for a consultation is six to nine months. The best resource so far is a community of queer friends who have been through it before. From them, I'm learning how menstrual cups can replace syringes and the terrifying cliché of a turkey baster; how keeping the cup of sperm between your legs can help maintain body temperature and keep it alive for longer. All the while, I can't stop thinking about bees and my longing to keep hives of my own, to raise both bees and children. Maybe it stems from childhood observations of my uncle with his hives, but bees have become a symbol of what I want for my own family: their evolution toward cooperation, their shared social labour and how they, like my own potential family, are female-led.

But some days, it seems like the destruction of my home and habitat are imminent. I read about the pollinator crisis and our shifting climate, about renewed homophobic rhetoric and attacks on queer and reproductive rights. The sun is clouded and red, smells of burning for days, we're told not to go outside in the smoke. Smoke tells bees to stay inside too—it's why beekeepers use a tool called a smoker, a metal canister that blasts air out when hand-pumped, to subdue hives as they work on them. Smoke tells bees there is danger, and they react to it by bunkering down, stopping activities like foraging, which risks devastating both their food supply and our own crops that rely on their labour. I'm questioning if Earth is a safe place to raise a family, and yet, against my better judgement, I want to try.

The sperm bank's website catalogue looks like an Excel sheet. Traits sortable by column: blood type, parents' ethnicity, height, weight, age, hobbies. If I stare too long, the jammed rectangles tessellate, repeat and knit together on my screen like combs in a hive. Six-foot-one, Russian, self-improvement, weightlifting; A+, PhD, medieval martial arts; five-foot-nine, Jewish, stamp collecting; AB+, Chinese descent, likes to dance. No matter which you pick, the cost is \$1,350 to \$1,500 per vial. On one website, a checkbox offers to keep you notified of any upcoming promotions. I get emails with the subject lines like "Don't miss out on the donors you love!" and "Find your Donor Look-a-Like on Fairfax FaceMatch." Another website shows the donor's baby photos and charges a fee to view the men as adults—puffy infant cheeks transformed into shaven jaws and thinning hairlines.

There is a shortage of sperm in this country. Strict legislation means that sperm can only be donated altruistically. There are only twenty-seven donors currently available through the sole sperm bank that seeks out Canadian donors. To reflect Bear's background, we are looking for a Chinese donor. There are only four. Unless we want to have a child who is related to everyone else who uses a Chinese donor in Ontario, going through a sperm bank will likely mean using sperm imported from the US, but even there, where donors are compensated, the pandemic has resulted in shortages as people have reduced the frequency of their visits.

There's ongoing research into the idea that a honeybee queen may be able to choose which sperm she uses from her internal bank, possibly picking between the most desirable characteristics for her offspring—bigger wings, cleanliness, fancier stripes, mite resistance—to create a stronger and more genetically diverse hive. But even bees are having sperm troubles: neonicotinoids, a class of notoriously lethal yet broadly used insecticides, reduce bee sperm count by an average of 57 percent and impact its viability by 42 percent, according to one 2016 study. This impact on the bee population has led the European Union to ban neonicotinoids entirely, with some restrictions in place in Canada and the US as well. But their use is only growing, and they remain the predominant insecticide worldwide, chipping away at bees' ability to procreate. We're not the only animals with sperm banks: some universities and laboratories have started banking honeybee semen to make sure we're able to preserve and restore the species should it face further collapse.

Sourcing sperm is a touchy topic. Instead of having babies, many of my own reproductive years have been spent working in restaurants. I like serving—it's chaotic and my feet blister, but there's a confidence that comes with finding the rhythm of the tables and knowing exactly what everyone needs. At the restaurant I worked at pre-pandemic, a guy came in the mornings to clean. When he was done, he'd have breakfast at the bar. Eggs, sausage, home fries, hot sauce. I suspected he was pretty strung-out most days. He knew I was gay, and while he ate, he liked to tell me stories about all the lesbians in his life that were attempting to trick him out of his semen. At least once a week, it seemed that someone was trolling for his sperm—often through an elaborate threesome attempt. It always seemed to happen just in time for him to tell me about it over breakfast, casually sawing through his sausage as he recounted tales of vodka-energy-drink-laced seduction.

The notion that women are out to pilfer sperm is centuries-old. Sperm has long been seen as a cherished commodity, a valued jewel sought and stolen by women. During the witch trials of the fifteenth and seventeenth centuries, marital impotence was often attributed to witchcraft. Women were accused of poaching their husbands' semen in order to mate with a devilish incubus, who ostensibly lacked his own and so recruited witches to steal it from their sleeping partners. Today, accusations of witchcraft and our reverence for semen translate into sensationalized court cases around birth control fraud, in which women are accused of coercive means of reproduction. In the mid-2000s, a Chicago woman was accused of storing semen from a blowjob in her cheeks to later impregnate herself. Reports of women lying about birth control, along with charges of sabotaging or stealing used condoms, feed a kind of cultural panic. The single or lesbian sperm bandit has emerged as a trickster figure, wrenching sperm from unsuspecting heterosexual men.

On the film criticism website TV Tropes, this plot device is known as "All Lesbians Want Kids," in which nefarious lesbians seek to trick unsuspecting straight men into giving up the goods with zany schemes. My first memory of witnessing this in action was on *The L Word*. In the spermjacking scene,



which aired in the second episode of the show in 2004, two would-be mothers meet a random guy at an art opening and shake him down for seed through the guise of a threesome. "Oh man," the dude sighs when he foils the couple's sinister scheme. "Why is it whenever dykes want to have sex with a guy it's only because they're trying to steal his sperm?" Sperm safe, he rides away into the night on his motorbike, toward the next woman lying in wait.

I don't want to steal anyone's sperm. But Bear and I want a

child and sperm is a main ingredient. Practically, where and who do we get it from? Unlike bees, there are no sperm banks designed especially for us. Do we spend money on clinics and a stranger's sperm? Or do we DIY it with someone we know and trust? Leading to the awkward experience of saying, "Please, dear friend, jack off in this cup for us for the next six months until it sticks." No matter what we decide, family-making, for us, means operating outside the conventions of the nuclear family and the patriarchal imagination.



When a drone copulates, his entire endophallus (bee-dick) erupts like a volcano, leaving his internal organs to spill like lava. Bees find this deadly method the most effective means of reproduction. The stakes for sperm-giving humans are considerably lower—all that is needed is a private space and a small, lidded cup. Are we, as a culture, perhaps a little overly precious around sperm? We seem to fluctuate between treating it as highly sacred and intimate, and as a commodity to be purchased at prices close to monthly rent for a Toronto apartment (basement, no windows). I imagine what it would be like to view sperm and egg donations as a type of action and activism, a radical act of community. By leaning into generosity around our gametes, perhaps we could gradually stretch our definition of family and how it is possible for one to be made.

And there are gametes to spare. All over North America, unused embryos, eggs and sperm are termed as “abandoned” in fertility clinics—customers no longer wanting or able to pay yearly storage fees simply ghost. In the US alone, estimates for the total of abandoned embryos range between 90,000 and into the millions. Bear and I are lucky to have two (hopefully working) uteruses between us. For couples without them, like many gay men, fertility is a more extensive and expensive process, requiring surrogacy and either egg or embryo donation. But a number of the embryo “adoption” programs that exist are run by predominantly Christian groups that deny access to single people and queer and trans couples. The National Embryo Donation Center located in Knoxville, Tennessee, for instance, stipulates that to receive an embryo “couples must be a genetic male and a genetic female married for a minimum of 3 years.” This is not their only loaded restriction: they also make rules regarding the woman’s age and BMI and state that the combined age of the couple cannot be over one hundred years. While many of us face innumerable, sometimes insurmountable barriers to starting a

family, a surplus of spare gametes haunt storage units. We need to find ways to repair this disconnect—to share this resource with care, compassion and consent.

When I talk about sharing, I don’t mean a sharing economy. I don’t want sperm delivered like UberEats or bartered for a bottle of rosé on local trade groups—but I do wonder about creating a more collective model of sperm and egg donation. Like my own potential family, honeybees also select one individual to reproduce on the families’ behalf—millenia has taught bees that it is advantageous to divide up this labour. The queen becomes a queen by being fed extra royal jelly: a protein-rich secretion made from digested pollen and honey. These extra delicious helpings let her reproductive system fully form, unlike worker bees, which don’t have complete reproductive systems. They share the rest of the labour. In Canada, queer men are prohibited from donating sperm in the same way that they were banned from donating blood—no dice unless you’ve been abstinent for three months, even if you’re in a long-term monogamous relationship. This denial seems like a missed opportunity—there is a long history of queer people helping each other start families, a sense of reciprocity and generosity that goes beyond heteropatriarchal norms. Aziz M, the gay man currently taking the federal government to court over the sperm debarment, plays an active role in the life of the child he helped a lesbian couple conceive. Community, and family, can come in many forms.

Recently, I tried tech’s answer to community-based inception: a Tinder-style app called Just a Baby, where you can swipe left or right on prospective donors, co-parents and surrogates. I created my profile: no photo and a simple sentence that we are two queer women in our thirties seeking a donor to start a family. Within twelve hours, I had eighty likes from men. I started to get a feeling of what it must be like on the straight side of dating apps, only with more obvious pregnancy fetishes. Scanning the profiles, a whole other ecosystem emerged: declarations of being unvaxxed, boasts of exercise regimens, IQ scores and the number of children already fathered. When the one guy we match with, a twenty-eight-year-old in Toronto, starts chatting, I initially respond. But something about the conversation feels rushed, his responses a little too fast and eager. He disconnects when I tell him we are only looking for artificial insemination, not sex.

Up until this winter, we thought a friend might be our donor, but a few months ago, he decided no. He didn’t think he could ever view the child as not belonging to him. When I found out his decision, I cried so hard I lost a contact. The world out of focus, I couldn’t see anything in front of me, couldn’t think what we’d do next. Here you had a vision for how your life might go and now it’s gone.

Another vision: I’m nineteen and I’m helping my uncle with his honey harvest. Back then, I thought I liked men. As children, we played wedding: my cousin, the officiant, my sister and I, the pretend couple, making our parents watch the ceremony. On my uncle’s porch, churning the honey, some part of my young adult self is still fantasizing about weddings. The imaginary groom featureless—he could’ve been anyone. This was how our lives were supposed to go. My ambition toward marriage was an

understanding of the perceived value of belonging, of following a life path that mirrored the rest of my family. My uncle guiding us, we set up a screened tent and a small grid of netting around us. Each rectangular wood frame full of honey is inserted into a larger metal canister—like a salad spinner—that’s used to extract it. I crank the handle as fast as I can. In the trough, honey flows, a viscous river mixed with debris, wax and dead bees. We stick our fingers into the current, tasting the different flavours. I love eating honey straight from the comb, breaking off corners with my fingertips and tearing through the waxy sweetness like a bear. I don’t know it yet, but years later, I will fall in love with a girl who is also a Bear. We will imagine having children together, more clearly than I ever could with the faceless groom. I’ll tell her how much I want to show the child this honey harvest process—the shades of honey blending together into one as we filter and fill the jars. How the bees smell the honey and return to it, crawling over the mesh.

“Who will carry?” It’s a common question from friends when I talk about our plans for a family. I’m reluctant to answer, but always do. “I’m younger,” my script goes, “it’s more practical.” But truthfully, I’m starting to dream of pregnancy the way I dream of beehives. A fantasy about a kitchen, a garden, a bee-yard like my uncle’s. My belly swollen, cheeks blushed. A summer dress, barefoot. Sometimes, I catch myself—barefoot and pregnant? How has this old gendered nugget entered my imagination? I’m embarrassed of this desire and worry it means I’ll be forever seen as “the girl.” Bear then, by default, will get to be “the boy,” when the truth is somewhere in between for both of us. I don’t like the power attached to the idea of being the boy and the powerlessness associated with being seen as the girl. But Bear doesn’t imagine her body changing the way I do. Instead, her fantasies centre around our family itself, not how it comes into being. And so, we will try together with my body first, all its curving hope.

I’m in love with how many bee species have evolved to be cooperative. Even those that are considered more solitary or subsocial, such as the mining bee—wearing its little hard hat with a headlamp, carrying a pickaxe—still might share a tunnel entrance with another. Orchid bees live entirely separately, but will still reuse another’s nest when their neighbour is done with it. On the other end of the spectrum, there’s honey and bumble bees, which, over the course of generations, have organized to work together to care for different parts of the hive: food, brood, cleaning and defence. In these highly social species, the eggs, larvae and pupae are cared for by female bees that are not the biological mothers. Due to this level of collective effort, researchers dub these matriarchal creatures “superorganisms.” This is something like a group or hive mind in speculative fiction, the community of aliens in the *Toy Story* series that speak in unison. Rather than viewing bees as thousands of individuals working together, the superorganism theory asks us to view the hive’s entire population as one complete animal—bees akin to cells making up the singular body of the hive. But something about this definition feels off. I’m suspicious that humans, when encountering a species which prioritizes the collective over the individual, seek to reduce that advanced cooperation to the

singular. Maybe in a worldview built through the violence of capital, colonies and individualism, we don’t want to acknowledge that there are advantages in ranking community over self.

In his book *Honeybee Democracy*, acclaimed bee researcher and Cornell University professor Thomas D. Seeley outlines the many ways honeybees make collective decisions—selecting nesting sites, navigation, or overthrowing, murdering and re-spawning an unproductive queen. Bees, unlike humans, take part in what he considers a “unitary democracy.” Unlike our own method of democratic decision-making, where debates and consensus-gathering may still sow division, debates held by bees—argued through the persuasive and beautiful language of waggle dances—always end in unanimity. A dance to communicate a new nesting site will gradually be adopted by all scout bees, even those who were once dancing their own jig in favour of a different location. But while reading this account from a verified bee expert, I wonder about the instinct to place bee behaviour within the context of a human political system. What does a beehive care about human ideologies like democracy? Picture a bee with a little orange “I voted” sticker strapped to its wing.

We often project human values and language onto bees. Before mating, queens are referred to as “virgins,” and researchers call the mating flight her “nuptials.” But she has no dress for the occasion, and won’t be wedded with a veil, bridesmaids or bad speeches. Why do we feel the need to embed bees into our own flawed systems of sexuality, virginity and marriage? Why force heteronormativity and chastity on a bee, when these structures do not even serve humans particularly well? I want my queen as she is: a fiercely-stinging, egg-laying, supersized insect, pumped-up with jelly and leaving the corpses of her lovers and would-be queens in her wake. Rather than making bees more like us, when it comes to family-making, we should consider what possibilities their particular ways of being can teach us, and seek to make our families more like theirs: the shared effort of a hive.

**At a dinner party, two straight couples talk about** the magic of finding out who they might biologically make together. Bear and I sit quietly through this conversation—there is nothing for us here. The table seems unaware of the exclusion. The advantage for us is that any child we have will be wanted and considered, overly so. But as any couple dealing with fertility challenges knows, there is a grief in never knowing a child made from the both of you. Our child, we know from the start, can never be a biological metaphor for our relationship. No luxury of imagining otherwise. “My sperm would be so powerful,” Bear says to me one morning over coffee. I laugh, but her joke also brings a small ache for something we made to kick its legs into my stomach.

In *Of Woman Born: Motherhood as Experience and Institution*, Adrienne Rich argues that the creation of the nuclear family is rooted in both patriarchy and capitalism—that its structure demands marginalized labour, increased social isolation and a lack of agency for the birthing parent. This concept is revisited in *Abolish the Family: A Manifesto for Care and Liberation*, a 2022 book from scholar Sophie Lewis in which she tells us that the family is “capitalism’s base unit,” predicated on the privatization





of care. Immediate relatives become responsible for each other's ability to thrive in capitalism, rather than society as a whole. Those who cannot succeed in the working world become a burden for the family to manage. "Like a factory with a billion branches," Lewis writes, "[the family] manufactures 'individuals' with a cultural, ethnic, and binary gender identity; a class; and a racial consciousness. Like an infinitely renewable energy source, it performs free labour for the market." She argues that the patriarchal family has been an extension of colonial vio-

lence—forcing its structure onto Indigenous peoples, erasing each nation or tribe's traditions of kinship.

In confronting the nuclear family, we must also confront queer marriage. Lewis mourns how the word queer has moved away from its communist roots, recalling the movement's history of resistance to reproductive institutions like marriage. In queer scholar José Esteban Muñoz's *Cruising Utopia*, he recalls how queer liberation was once a call to completely remake society and envision new forms of community. He views the gay marriage movement

as the "erosion of the queer political imagination," an agreement to assimilate into, rather than fight, state-sanctioned capitalist and colonialist structures as LGBTQ2S+ people. Mainstream queer activism stopped asking how we might build something new. Rather, we sought to be included in the very systems that denied us and caused us violence: marriage, the nuclear family, with all their injuries and baggage. There were high-stakes and heart-wrenching reasons queer people sought access to marriage—being barred from your partner's hospital bedside, for example. Yet I can't help but think that queer family-making, with its long history of exclusion, should seek to resist the nuclear. Rather than making ourselves fit into normative family structures, let's bring back conversations around how we might, like bees, broaden our imaginings of familial roles and what a family can be.

When I share with some friends (truthfully, it's often the straight ones) our hopes for a family, the conversation always seems to skirt toward that heady detail of where we'll get the sperm. Bear calls this question incredibly rude, says it's no one else's business. But I'm starting to fear, as this question is put to me over and over by even the most well-meaning friends, that any child we have will never be viewed as truly ours.

There's a sad legal truth to this. My dear friend Connie, who is both a lawyer and sperm donor themselves, talks me through some of the complexities. They explain that I need to be careful around jurisdictional laws and make sure the non-birthing parent is listed on the birth certificate, or else Bear may have to adopt her own child. In Ontario, where I live, this requirement was officially overturned in 2016 with the All Families Are Equal Act, which originated from a private bill, Ruby's Law, named for the child of two women who experienced a risky childbirth. Had the birthing mother died, her partner would not have been allowed to take the child home. Even today, it's hard to know what the precedents are and what we'll need to do to ensure Bear's parental rights, especially if we ever move out of province (in Nova Scotia, where I'm originally from, queer families are currently struggling to have both parents recognized on the birth certificate). And there are endless documents to sign: donor agreements, parental agreements, each likely costing a couple grand. I know we're lucky to even be able to consider spending this money; I've always been scared of money and my relationship to it. I write, I freelance in event and project management and, when I get desperate, I pick up server shifts at restaurants. It's hard to be financially secure when you rely on grants, short contracts and tips. I know that owning a house is not an affordable reality for us. Dare we bring a child into our lives when we're so unsure what we can materially offer? But my eggs are aging, and, unlike my straight friends, there won't be a happy accident—there's too many logistics involved.

Honeybees can build homes anywhere. Their capacity for homemaking is staggering. One of my favorite ways to pass the time is to watch bee removal videos, in which bees have set up shop in places that are inconvenient to humans. I watch an apiarist removing a hive occupying the floor of an upstairs bedroom. Lifting the floorboard, an entire metropolis is revealed—waxy waves of comb and insects. Gently, he saws through the wood

that holds the hive, lifting a board free and turning it over to reveal the layers of comb. It reminds me of topographic maps—big, wide swells of elevation compacted next to each other. He vacuums up the bees, cuts and fits the comb into square frames and brings the bees back to his own boxes. In another video, a beekeeper works to remove a hive from the inside of a truck tire; in others, bees are taken from barn ceiling beams and an old scrapped washing machine. Like liquid, honeybees seem able to grow to fill any container they are in.

I'm awed by their ability to adapt, to build and sculpt their hives anywhere and stake out space for their family. If bees can shelter each other in scrap-metal appliances, surely Bear and I can do it in a rental apartment.

If you care about bees or our planet, there is no ignoring the mounting panic around the pollinator crisis. Mass insect deaths are devastating our food supply. A 2023 Guardian article states that the impact of pollinator decline on our food availability has led to 500,000 early human deaths annually. We've created artificial pollinators: insect-sized microrobots, tiny mechanical bees substituting the pollination labour. Honeybees, like the polar bear, have become a potent symbol of our changing world and all we have to lose (though they are far from the only pollinator affected). Our food chain is reliant on pollination, and the loss of wild populations (around a quarter of all bee species have disappeared since the nineties) has made commercial beekeeping a huge industry—trucks full of bumblebees and honeybees road-tripping across the continent to assist crop growth (about 85 percent of the 2.7 million commercial hives in the US annually journey to California to assist with the almond industry). In *The Insect Crisis: The Fall of the Tiny Empires that Run the World*, Oliver Milman presents a bleak and alarming view of the current state of bee populations, both wild and kept.

**If bees can shelter each other in scrap-metal appliances, surely Bear and I can do it in a rental apartment.**



He holds that a culmination of parasites, pesticides and poor diet have created a situation where keeping bees is more akin to emergency department triage than an agricultural practice. Approximately one-third of food eaten by Americans is reliant on crops pollinated by bees, including apples, squash, broccoli and cranberries, in addition to almonds. We're forever in a deficit, always needing to produce more bees to make up for the ones we kill each year. According to Milman, the only reason bees haven't disappeared entirely is because we rely on their commercial labour, and if not for this industry, both honeybees and humans would be facing extinction—our futures delicately entwined.

Is it responsible to bring a child into a world I often feel is ending? Or at least, setting itself up for only the wealthiest of us to survive? My friend, a new father, once told me that having a child made him realize he still had hope. Bear tells me the same thing, but is it fair to ask a child to be a metaphor? I watch as attacks on queer and trans people grow again. Old concepts repurposed for a new generation of hate by cynical politicians. Mass shootings in gay bars, calling drag queens "groomers," censoring the word gay, policies targeting trans kids. All the work of our elders starts to feel erased, radical or otherwise. I don't know if it's fair to bring you, my imagined child, into a place where our family will sometimes be a hated thing, its legitimacy questioned.

My friend Zac is a person who does things for himself: he makes beer as good as any local brewery, grows his own hops and has perfected the art of sourdough. I love talking with him about bees. He's both a professional and hobbyist beekeeper, who keeps his personal hives on a small second-floor patio overlooking a city park. Sometimes I help him, holding the smoker or delicately chiselling the propolis (a sticky bee-made resin) to open the lids and boxes. His outlook around beekeeping and pollination is considerably less dark than Milman's. Emblematic of his hopefulness is his approach to the varroa mite, described by Milman as a monstrous, zombie-making parasite "seemingly put on this planet with the sole task of tormenting bees." A small red oval in the bee's abdomen like a blood blister, the mite feeds on the bee, gradually weakening it and making the entire hive more susceptible to disease. The mite leverages the bee's natural life cycle by laying eggs in brood cells so that they develop at roughly the same speed as the growing bee. When the bee hatches, the varroa hatches too and spreads to the rest of the hive. Few solutions have so far been found to combat its impact on hives, leading to its Latin name: *Varroa destructor*.

Beekeepers attempt to treat varroa mites in a number of ways, from placing screened bottom boards in the hive that the mites are more likely to fall through to various synthetic chemical treatments, but none have proved particularly effective. Yet Zac is optimistic when I ask him about the mite and what it means for our future hives. In his calm and level way, he tells me that we've learned a lot in the forty years since the varroa mite appeared, and we'll continue to learn and figure out how to manage it. Until recently, the scientific consensus was that it fed on blood. But actually, Zac tells me, it feeds on fat. Even this small discovery might drastically change our approach to managing it and its impact on our pollinators. Over at Zac's

house, I tell his wife, Amba, about our plans to have children. She, a hobbyist sex educator, gives me a tip about placing some of my own vaginal mucus in the bottom of the sperm donation cup—cervical mucus may help sperm survive for longer outside the body. I'm always polling my friends about bees and babies lately—always daydreaming and hoping.

And there is hope to be had. Research has shown that hives in the wild are more capable of dealing with varroa than kept bees—possibly because they're a bit cleaner, a bit more fastidious about catching parasites. It may be that they're allowed to swarm, a natural occurrence for bees that many beekeepers, Zac included, actively discourage. It's understandable that beekeepers don't want their hives to swarm—swarms scare your neighbours, and you risk losing half your bees when they divide. But this suppression of swarms, this natural reproductive behaviour, may be part of what leaves our modern hives so susceptible to pests like varroa. An egg-laying queen is too heavy to fly, so in advance of a swarm the workers stop feeding her, stopping her egg production and making her light enough to leave with them. Without eggs, the varroa struggles to establish itself in the hive, meaning swarming behaviour is likely one of the most helpful ways to prevent varroa mites. Perhaps, the best beekeepers are actually the bees themselves.

I wonder if this is also true for my own reproduction: that industrializing it might have negative impacts. I'm grateful for medicine, but I also know hospitals and clinics can be stressful environments. My ovulation app keeps reminding me to meditate, to exercise, that fertility is served by safety and calm. Ideally, I want the intimacy of fertility at home, not in a clinic with a doctor and a speculum, but I may not have that luxury. Zac shares a slide deck that he made about varroa for his work with me. The final slide poses questions: "What traits are good for bees? What traits are good for beekeepers and which are good for both?" When we try to overmanage reproduction, we might be doing ourselves a great disservice.

Sometimes, Bear and I lean into each other, all shoulders, whispering hopes for our family: a child between us in bed, idealistic dreams of how our version of parenting will distinguish us from our upbringings. At an artist residency in Vermont, a visiting poet brings his one-year-old baby. Though I'm a stranger, when the baby sees me, she immediately reaches out, her small body pointing toward me. She climbs into my arms and together we circle the room. She points to the things she wants to move closer to, including a couch, a window and then my sunglasses, which she removes from my hair and places over her own eyes. A toddler transformed into a giant bulging insect. How open she is to me, how wonderfully secure this child who is not mine seems to feel as I carry her, her curls mixing with my own. She's not quite talking yet, but there's an almostness to her sounds—the beginnings of words. Her voice is so soft it buzzes, bringing me into daydreams of the pillowy hum of thirty thousand other little girls on a comb. As always, they are working. Working not for themselves, but for each other. Their hive is a heart that crawls instinctively toward something bigger than their own lives—the construction of something more. ❄️